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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,062	01/31/2002	James G. Bledsoe	25174A	2671
22889	7590	09/08/2004		EXAMINER
OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			STAICOVICI, STEFAN	
			ART UNIT	PAPER NUMBER
			1732	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/062,062	BLEDSOE ET AL.
	Examiner	Art Unit
	Stefan Staicovici	1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 June 2004.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-44 is/are pending in the application.
 4a) Of the above claim(s) 13-33 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-8,11-12,34-41 and 43-44 is/are rejected.
 7) Claim(s) 9,10 and 42 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 31 January 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/31/02</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I in the reply filed on April 23, 2004 is acknowledged. The traversal is on the ground(s) that "the search and examination of the entire application could be made without serious burden" (see page 12 of the amendment filed April 23, 2004). This is not found persuasive because as noted in the restriction requirement mailed March 23, 2004, the inventions of Groups I-III contain subject matter that is classified in different classes and subclasses, hence making the search burdensome.

The requirement is still deemed proper and is therefore made **FINAL**.

2. Claims 13-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 58-76216 in view of Weinstein *et al.* (US Patent No. 4,082,882).

JP 58-76216 teaches the basic claimed process of making a composite sheet including, drilling holes (4) in a reinforcing sheet (3), positioning a SMC sheet (2) (resin and fiber

reinforcement material) onto a hot press surface (mold surface), placing said reinforcement sheet (3) over said SMC sheet (1) and further, placing another SMC sheet (1) over said reinforcement sheet (4) to form a reinforcing panel, heat pressing said reinforcing panel such as to force the resin of the SMC sheets into holes (4) of said reinforcing sheet (3) (see Abstract and the Figure).

Regarding claims 1 and 36-37, JP 58-76216 does not teach an outer coat material. Weinstein *et al.* ('882) teach a reinforcing panel including, a plywood reinforcing sheet (18) and an outer coating (12) (see col. 2, lines 50-60). Therefore, it would have been obvious for one of ordinary skill in the art to have provided an outer coating, as taught by Weinstein *et al.* ('882), to the reinforcing panel obtained by the process of JP 58-76216 because, Weinstein *et al.* ('882) specifically teaches that an outer coating provides for an improved product because of increased weatherability and impact strength (see col. 2, lines 34-39) and also because both references teach a plywood panel, hence teaching a similar end-product.

In regard to claims 2 and 34-35, Weinstein *et al.* ('882) teach the use of vacuum to bond the plurality of layers under heat and pressure (col. 3, lines 36-56). It is submitted that air is evacuated through said holes in the process of JP 58-76216 in view of Weinstein *et al.* ('882) because in a vacuum forming process the air that is removed follows the path of least resistance, which in this case is represented by the holes in the reinforcing panel. Therefore, it would have been obvious for one of ordinary skill to have used a vacuum as taught by Weinstein *et al.* ('882) to bond the layers in the process of JP 58-76216 due to a variety of advantages that vacuum processing provides such as, reduced porosity and increased strength, hence providing for an improved product.

Specifically regarding claims 3 and 38, JP 58-76216 teaches a second SMC sheet (1), hence teaching a polymer sheet.

5. Claims 4-6, 8, 39, 40 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 58-76216 in view of Weinstein *et al.* (US Patent No. 4,082,882) and in further view of JP 62-064527.

JP 58-76216 in view of Weinstein *et al.* ('882) teaches the basic claimed process as described above.

Regarding claims 4-6, 39-40 and 44, JP 58-76216 in view of Weinstein *et al.* ('882) does not teach tapered holes and the size of said holes. JP 62-064527 teaches bonding of a synthetic material (1) and a different material (2) that is perforated with a plurality of tapered holes (3), said holes having the smaller diameter (2-5 mm) (0.07-0.196 inches) facing said synthetic material (1) (first side of the reinforcement panel), and forcing said synthetic material (1) through said holes (3) to bond said synthetic material (1) and said different material (2) into a laminate (see Abstract and the Figures). Further, JP 62-064527 teaches that said holes (3) have a diameter ranging of about 3-10 mm (0.118-0.40 inches) on the side opposite said different material (2) (second side of the reinforcement panel). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a plurality of tapered holes, said holes having the smaller diameter (2-5 mm) (0.07-0.196 inches) facing the reinforcing sheet, as taught by JP 62-064527 in the reinforcement panel in the process of JP 58-76216 in view of Weinstein *et al.* ('882) because, JP 62-064527 teaches that tapered holes are needed to allow the molten material

to flow through said holes and also teaches that the size is directly dependent on the desired bond strength, hence teaching that the hole size is a result-effective variable.

In regard to claim 8, JP 58-76216 in view of Weinstein *et al.* ('882) teaches an acrylic (polymeric) outer coating layer that provides for improved aesthetics. Hence, it is submitted that sink marks do not exist on said panel of JP 58-76216 in view of Weinstein *et al.* ('882) in order for it to function as described by maintaining its aesthetic appearance.

6. Claims 7 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 58-76216 in view of Weinstein *et al.* (US Patent No. 4,082,882) and in further view of JP 62-064527.

JP 58-76216 in view of Weinstein *et al.* ('882) teaches the basic claimed process as described above.

Regarding claims 7 and 41, JP 58-76216 in view of Weinstein *et al.* ('882) does not teach perforating using at least one roller having a plurality of pins. However, the use of rollers with perforating pins is well known in the art as evidenced by Tellman *et al.* ('869) who teach perforating a veneer sheet using at least one roller (32) having perforating pins (36) (see Figure 2). Therefore, it would have been obvious for one of ordinary skill in the art to have used a roller with perforating pins as taught by Tellman *et al.* ('869) to form holes in the reinforcing panel obtained by the process of JP 58-76216 in view of Weinstein *et al.* ('882) because, Tellman *et al.* ('869) teach that such a roller forms holes in veneer, whereas JP 58-76216 in view of Weinstein *et al.* ('882) teach a plywood reinforcing panel.

7. Claims 11-12 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 58-76216 in view of Weinstein *et al.* (US Patent No. 4,082,882) and in further view of Sharp (US Patent No. 5,054,645).

JP 58-76216 in view of Weinstein *et al.* ('882) teaches the basic claimed process as described above.

Regarding claims 11-12 and 43, JP 58-76216 in view of Weinstein *et al.* ('882) does not teach a plurality of tapered holes having a density from about 4-49 holes per square foot of reinforcement panel. Sharp ('645) teaches bonding a separating material (16) having a plurality of holes therein with a fiber reinforced layer (17). Further, Sharp ('645) teaches that the plurality of holes have density of 20-350 per square foot of separating material (see col. 3, line 48 through col. 4, line 5). Furthermore, it is noted that for a specific surface, the hole density is dependent on the size of the holes. Therefore, it would have been obvious for one of ordinary skill in the art to have provided a plurality of holes having a density of 20-350 per square foot as taught by Sharp ('645) in the reinforcement panel of JP 58-76216 in view of Weinstein *et al.* ('882) because, Sharp ('645) teaches that such hole density provides for improved bonding and also because, the hole density is dependent on the size of the holes, hence the hole density is a result-effective variable.

Allowable Subject Matter

8. Claims 9-10 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD


Primary Examiner 9/6/04

AU 1732

September 6, 2004